

ABSTRACT

A system and method for monitoring and managing electrical power transmission and distribution networks through use of a deterministic, non-iterative method for determining the
5 real-time loadflow in a power generating system having an electrical grid. Such method may be employed for real-time or off-line applications for electric power systems reliability assessment, and is capable of determining whether or not a physical solution to the loadflow problem exists, or if the system is in a state of voltage collapse.